

ARGENTINE XORIDES (HYMENOPTERA: ICHNEUMONIDAE)

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ABSTRACT

The genus *Xorides* is recorded from Argentina for the first time. The author describes and keys *X. magnificus* (Mocsáry), *X. euthrix* n. sp., and *X. xanthisma* n. sp.

RESUMEN

El género *Xorides* está dado para Argentina por primera vez. El autor describe y da una clave para *X. magnificus* (Mocsáry), *X. euthrix* n. sp. y *X. xanthisma* n. sp.

Xorides is a cosmopolitan genus which parasitizes larvae of Coleoptera that bore in the wood of dead and moribund trees. Many *Xorides* are large, conspicuous wasps and numerous species have been described from most parts of the world. For example, 21 species are known from the Nearctic, more than 17 from the Palaearctic, 27 from the Oriental, 2 from the Australian, and 12 from the Ethiopian region. In contrast, only two *Xorides* so far have been reported from the Neotropics (Townes, 1966, p. 53) and none has been known from Argentina.

However, recent fieldwork by the author in northeast Argentina, under grants from the Instituto Miguel Lillo and the National Geographic Society, has brought to light three species of *Xorides*. One of these, *X. (Pyramirhyssa) magnificus* (Mocsáry) is the only member of an endemic South American subgenus originally described from São Paulo, Brasil. The second is a new species of the subgenus *Periceros*, another endemic South American group known previously from the Amazon Valley and Bahia State in equatorial Brasil. The third is an undescribed member of the typical subgenus and provides the first record of *X. (Xorides)* from the Neotropics.

In the following study keys and descriptions are given of the Argentine *Xorides*. Material examined has been deposited in the collections of the Instituto Miguel Lillo (Miguel

Lillo 205, S. M. de Tucumán, R. Argentina) and of Charles C. Porter (301 N. 39th St., Mc Allen, Texas, 78501).

Genus *Xorides* Latreille

Mandible edentate; tip of female flagellum curved or abruptly bent, the modified portion exteriorly with one to several enlarged and peglike setae; epomia usually strong, turning forward dorsally and normally forming a tooth or projection at the turn; sternaulus weak or absent; areolet absent; second recurrent vein with two bullae; first gastric tergite without glymma, 1st spiracle at or in front of the middle; second tergite usually with an oblique basal groove on each side, setting off the baso-lateral corners; ovipositor long, tenuous, dorsal valve on tip without a subapical notch, ventral valve on tip with about eight ridges and a roughened area basad of the ridges.

KEY TO THE ARGENTINE SPECIES OF XORIDES

(Based on females)

1. Tip of flagellum gently curved (fig. 1); propodeum transversely wrinkled but not areolated, with strong lateral subapical tubercles and the apical rim produced into a large tooth behind each tubercle (fig. 2); postpetiole 2.8 as long as wide at apex (fig. 2)1. *X. magnificus* (Mocsáry).
—Tip of flagellum abruptly elbowed (fig. 6); propodeum completely areolated and without subapical tubercles, although often with a tooth at apex of second lateral area (figs. 4, 7); postpetiole 1.0-1.3 as long as wide at apex 2
2. Basal half of flagellum with dense, shaggy hairs (fig. 3); second lateral area with a large tooth at apex (fig. 4); lower part of metapleuron coarsely wrinkled; first tergite with a lateral tooth at base (fig. 4).....
.....2. *X. euthrix* n. sp.

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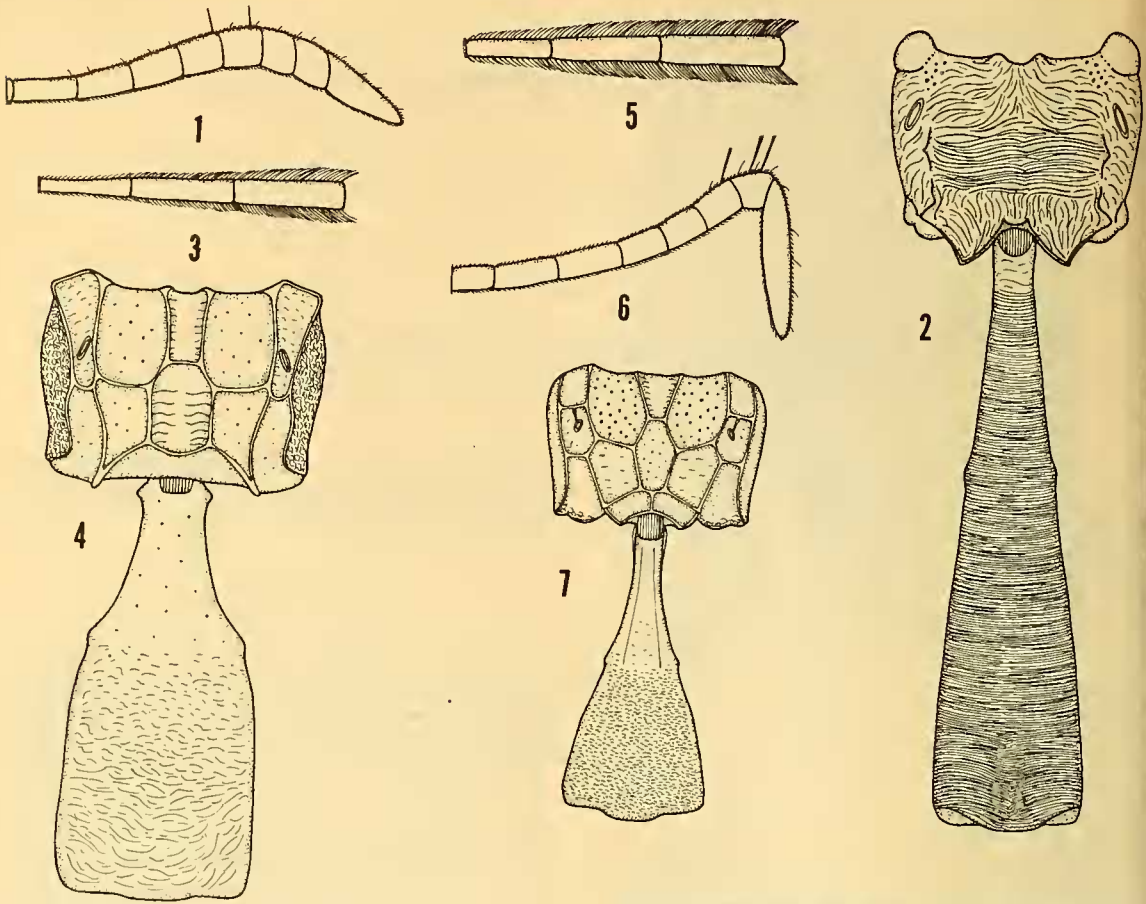


Fig. 1. *Xorides (Pyramirhyssa) magnificus* (Mocsáry). Tip of female flagellum.
 Fig. 2. *Xorides (Pyramirhyssa) magnificus* (Mocsáry). Dorsal view of female propodeum and first gastric segment.
 Fig. 3. *Xorides (Periceros) euthrix* n. sp. First three segments of female flagellum.

Fig. 4. *Xorides (Periceros) euthrix* n. sp. Dorsal view of female propodeum and first gastric segment.
 Fig. 5. *Xorides (Periceros) plumicornis* (Smith). First three segments of female flagellum.
 Fig. 6. *Xorides (Xorides) xanthisma* n. sp. Tip of female flagellum.
 Fig. 7. *Xorides (Xorides) xanthisma* n. sp. Dorsal view of female propodeum and first gastric segment.

—Basal half of flagellum with small, appressed hairs; second lateral area with a weak tooth at apex (fig. 7); lower part of metapleuron finely puncto-rugulose; no baso-lateral tooth on first tergite (fig. 7)
 3. *X. xanthisma* n. sp.

Subgenus Pyramirhyssa

Pyramirhyssa Mocsáry, 1905. Ann. Mus. Natl. Hungarici 3:15. Type: *Pyramirhyssa magnifica* Mocsáry. Monobasic.

- 1. *Xorides (Pyramirhyssa) magnifica* (Mocsáry) (Figs. 1, 2)

Pyramirhyssa magnifica Mocsáry, 1905. Ann. Mus. Natl. Hungarici 3:15, female. Type: female, Brasil: São Paulo (Budapest).

Female. Color: scape dark brown with a large white blotch below; flagellum dark brown with a white annulus on segments 13-17; head, mesosoma, and gaster dull reddish brown with irregular blackish staining and profuse white markings as follows: most of clypeus and face; front orbits to about level of hind ocelli; about lower 2/3 of hind orbits very broadly; much of propleuron; broad band on all of lower margin of pronotum, except for a short break medially; very large triangular blotch covering most of dorso-lateral part of pronotum; pair of large, anterio-lateral blotches on median lobe of mesoscutum; large centro-interior blotch and twice interrupted narrow exterior margin on lateral lobes of mesoscutum; front half of tegula; most of axillae; V-shaped

blotch covering most of apical half of scutellum; most of postscutellum; most of mesopleuron except for front margin, subalar area, large blotch beneath and behind subalarum, large blotch beneath and in front of speculum, and a smaller area directly beneath speculum; large apical blotch on mesosternum; most of lower part of metapleuron; large anterior-lateral and posterior-lateral blotches on propodeum; dorso-lateral stripe on about apical 2/3 of basal half of first gastric tergite; large blotch in apical corner of first tergite; apical blotch and stripe margining basal groove anteriorly on second tergite; large elongate blotch interior to basal groove and small, obscure area in apical corner on third tergite; large baso-lateral and apico-lateral areas on tergites 4-7; and a very large apico-lateral area on tergite 8; legs red brown to blackish with white as follows: fore coxa ventrally and laterally; fore trochanter and all but apical rim of fore trochantellus; front femur ventrally and on about apical 1/4; fore tibia ventrally as well as above sub-basally and on about apical 1/3; fore tarsus dull brownish white with darker staining apicad and above; mid coxa in great part ventrally; mid trochanter; all but apex of mid trochantellus; basally broadened dorso-lateral stripe and about apical 1/4 on mid femur; most of venter and greater part of apical 1/3 on mid tibia; dorsal blotch on basal 1/4 and ventral blotch on basal 1/2 of hind coxa; hind trochanter and all but apex of hind trochantellus; about apical 1/4 of hind femur; and about apical 3/5 of hind tibia; wings hyaline with a prominent brown blotch on fore wing that covers about basal 1/2 of radial cell, apical 1/4 of discocubital cell, basal 1/6 of third cubital cell, and apical 1/4 of second discoidal cell; stigma dark brown grading into whitish on basal 1/3.

Length of fore wing: 16.5 mm. *Flagellum:* on basal 1/2 with small, appressed hairs; the tip gently curved and with two large, modified setae. *Head:* a short, strong ridge between antennal sockets; lower half of temple with strong, obliquely longitudinal striae. *Mesoscutum:* largely with strong transverse wrinkles; lateral lobes prominently convex. *Scutellum:* with a slightly elevated and crested apical truncation. *Metapleuron:* lower part with large, generally sparse punctures and a few wrinkles. *Wing venation:* basal vein straight. *Fore tibia:* on front face with about nine scattered, short, stout toothlike spines; on apex with a comb of robust teeth. *Hind coxa:* almost parallel-sided in dor-

sal view. *Hin trochantellus:* in front view 1.0-1.5 as long as its trochanter. *Propodeum:* mostly with strong transverse wrinkling but not areolated; with a callus-like baso-lateral swelling in front of spiracle and a strong lateral subapical tubercle behind which the apical rim is produced into a stout tooth. *First gastric tergite:* very long and little expanded apicad, postpetiole 2.8 as long as wide at apex; surface nearly throughout with fine but strong transverse wrinkling; no baso-lateral tooth; its sternite ends well behind the spiracle. *Second tergite:* setae dense and mostly overlapping; baso-lateral corner cut off by a long, deep oblique groove which extends about half the length of the tergite. *Third tergite:* with well defined but shorter and weaker baso-lateral grooves than the second tergite. *Ovipositor:* sheathed portion 1.9 as long as fore wing.

Male: unknown.

Specimens examined: 3 females, ARGENTINA (*Corrientes:* Las Marías ca. Gdor. Virasoro, November 10-15, 1969, C. C. Porter). (Porter, Tucumán).

Discussion: Although known previously only from São Paulo, Brasil, the presence of *magnificus* in northeast Argentina is not surprising. The Brazilian subtropical wet forest biome or "Selva Paranense" (Cabrera and Willink, 1973, p. 60) reaches into Argentina across Misiones and into eastern Corrientes.

Field notes: The collecting locality is in a zone of grassland intermingled with hammocks of Selva Paranense. Specimens of *magnificus* were found ovipositing into a large, standing dead tree in a hammock on the Navajas Artaza property.

Subgenus *Periceros*

Perissocerus Smith, 1877. Proc. Zool. Soc. London 1877 : 412. Name preocc. by Gerstaecker, 1868.

Type: *Perissocerus plumicornis* Smith. Monobasic.

Periceros Schultz, 1906. Spolia hymenopterologica, p. 99. New Name.

2. *Xorides (Periceros) euthrix* n. sp. (Figs. 3, 4)

Holotype: female, ARGENTINA (*Misiones:* San Javier, November 12, 1971, C. C. Porter). (Tucumán). *Paratypes:* 10 females and 7 males, ARGENTINA (*Corrientes:* Las Marías ca. Gdor. Virasoro, November 10-15, 1969, Novem-

ber 7, 1971, C. C. Porter; *Misiones*: Leandro Alem, Instituto Alberdi, November 17-19, 1969, C. C. Porter; Puerto Rico, November 5-13, 1970, C. C. Porter and L. A. Stange, Trampa Malaise; San Javier, November 12, 1971, C. C. Porter). (Porter, Tucumán).

Female. Color: scape blackish with a white area below on basal half; flagellum black with a white annulus on segments 9-14; head, mesosoma, and gaster dull reddish with moderately dense long, silvery pubescence and with some black staining that is especially prominent on mandible, front and top of head, and thoracic dorsum; a broad white band on front orbit from just below level of median ocellus ventrad well into malar space; clypeus pale yellowish brown; legs dull red with fore coxa, dorsum of fore and mid femora, apex of hind femur, and some other areas more or less black stained, dorso-anterior aspect of fore and mid femora tending to yellowish, tibiae mostly yellow, fore and mid tarsi dull yellow with dusky staining that becomes darker apicad, and hind tarsus bright yellow with black on apical half of fourth and all of fifth segment; wings hyaline with a dusky tinge on apex of fore wing and the stigma yellowish brown with dusky peripheries.

Length of fore wing: 13.3 mm. *Flagellum*: basal half with large, shaggy, suberect hairs but setae of first segment short and fine in comparison to those on succeeding segments; tip abruptly elbowed, the enlarged last segment bent almost at right angles with respect to those preceding, three large modified setae just before the bend. *Head*: a strong, high lamella between antennal sockets; lower part of temple punctate with slight vertical striation. *Pronotum*: epomia almost vertical. *Mesoscutum*: with coarse transverse and longitudinal wrinkling that grades into dense punctation anterior on central lobe and exterior on lateral lobes; lateral lobes only weakly raised. *Scutellum*: apex rounded off and unspecialized. *Mesopleuron*: with abundant but well spaced fine punctures mostly separated by more than 2X their diameters. *Metapleuron*: lower part coarsely reticulate throughout. *Wing venation*: basal vein almost straight. *Fore tibia*: on anterior face with more than 20 long, moderately stout, spine-like bristles; on apex with a comb of moderately strong spines. *Hind coxa*: almost parallel-sided in dorsal view. *Hind trochantellus*: in front view 2.5-3.0 as long as its trochanter. *Propodeum*: completely areolated; second lateral area with a large, sharp tooth at apex. *First gastric tergite*: stout and

strongly expanded apicad, postpetiole 1.3 as long as wide at apex; surface dully shining with more or less well developed fine, irregular wrinkling; with a prominent, triangular basolateral tooth; ist sternite ends a little before spiracle. *Second tergite*: setae sparse; mostly smooth and shining with generally sparse punctures and a little minute wrinkling; its basolateral corner cut off by a profound oblique groove that reaches about 1/3 the length of the tergite. *Third tergite*: with a pair of broad, blister-like baso-lateral swellings. *Ovopositor*: sheathed portion 1.2 as long as fore wing.

Male: differs from female as follows: *Color*: fore and mid tarsi largely blackish with a little dull yellow staining on first segment; hind femur more broadly stained with black. *Length of fore wing*: 8.9 mm., *Flagellum*: basal half with fine, well spaced setae; straight and unmodified on tip. *First gastric tergite*: much more slender than in female, postpetiole 2.0 as long as wide at apex; surface largely mat with rather strong irregular wrinkling; sternite ends opposite spiracle.

Discussion: *Euthrix* greatly resembles the Amazonian *X. (Periceros) plumicornis* (Smith) but comparison of the types with a female of *plumicornis* from Tingo María, Perú (Orillas del Río Huallaga, July 13, 1974, on dead tree trunk, C. C. Porter) reveals a number of differences which may be summarized as follows:

1. Setae of first flagellomere long and coarse, only a little finer than those of following segments (fig. 5); epomia strongly oblique; mesoscutum smooth and polished with generally well separated punctures and other irregularities on much of anterior 2/3 of median lobe and exterior on lateral lobes, grossly wrinkled on apex of median lobe and mesad on lateral lobes; mesopleuron with abundant fine punctures averagely separated by less than 2X their diameters; first gastric tergite smooth and polished; temple, sides of pronotum, mesopleuron and metapleuron covered with very dense, long, silvery pubescence that obscures the surface; head and mesosoma black with reddish staining on thoracic sterna and below on pleura *X. plumicornis* (Smith)
2. Setae of first flagellomere relatively fine and short in comparison to those of succeeding segments (fig. 3); epomia almost vertical; mesoscutum largely covered by coarse wrinkling that grades into dense punctation anterior on median lobe and exterior on lateral lobes; mesopleuron with numerous fine punctures that are separated generally by more than 2X their diameters; first gastric tergite dully shining with more or less well developed fine wrinkling; temple, sides of pronotum, mesopleuron, and metapleuron with long but only moderately dense silvery pubescence that does not obscure the surface; head and mesosoma dull reddish with black staining, especially on front and top of head and on thoracic dorsum *X. euthrix* n. sp.

Possibly *euthrix* and *plumicornis* are geographic races of the same species. Only future collecting between the Selva Amazónica and Selva Paranense can answer this question.

Field notes: *Euthrix* is moderately abundant throughout Misiones and eastern Corrientes. At Las Marias the author collected it in the same hammock with *X. magnificus*. Unlike *magnificus*, *euthrix* never was observed ovipositing but was caught in flight or at rest on understory vegetation along trails through the woods. In any case, the considerable difference in ovipositor length between the two species implies that they choose different hosts, thus avoiding competition even when sympatric and synchronous.

Specific name: *Euthrix* is a Greek adjective meaning "with abundant hair".

Subgenus *Xorides*

Xorides Latreille, 1809. Histoire naturelle... des crustacés et des insectes... 4:4.

Type: *Ichneumon indicatorius* Latreille. Monobasic.

3. *Xorides (Xorides) xanthisma* n. sp. (fig. 6, 7)

Holotype: female, ARGENTINA (Misiones: Monte Carlo, August 11, 1974, C. C. Porter). (Tucumán).

Female. Color: scape yellow with a little brown staining that is best developed apicad above; flagellum dark brown with a dull yellow annulus on segments 10-13; head and mesosoma yellow with complex brown markings as follows: mandible blackish grading into yellowish brown on basal 1/4; pale staining in malar space; blotch on upper center of face below antennal sockets; area between antennal sockets which is prolonged dorsad on front about 3/4 the distance to anterior ocellus; irregular staining around ocelli; transverse band just behind posterior ocelli and behind that another broader, paler, somewhat irregular transverse band across occiput from eye to eye; staining on pronotal collar and epomia; narrow staining on dorsal and apical margins of pronotum; apically narrowed blotch on about central 3/4 of median lobe of mesoscutum; broad longitudinal blotch on each lateral lobe of mesoscutum; dark staining along notauli, reaching rearward from their terminus as a median stripe that almost attains hind margin of mesoscutum; most of prescutellar depression; stain-

ing in meso and metanotal axillary troughs and in depression before postscutellum; tegulae; broad dark band on anterior margin of mesopleuron and mesosternum; a little staining in subalar area; broad dark area on speculum, from which a narrower band reaches ventrad along hind margin of mesepisternum; weak staining on mesepimeron; pale staining on sternal part of prepectus and dark staining in median furrow of mesosternum; dark staining in groove between metanotum and propodeum and on most of upper part of metapleuron; lower part of metapleuron with a narrow dark line along front margin, a dark line along most of base of submetapleural carina, and a dark area above on apex; propodeum dark stained on most carinae and with large dark blotches occupying the area basalis and the second lateral areas as well as with some paler staining in other areas; first gastric tergite dull yellow near base of petiole, brown on about apical half of petiole and basal half of postpetiole, and bright yellow on apical half of postpetiole; succeeding tergites dark brown, a broad yellow apical band on 2-7 and a narrower, laterally interrupted yellow band on 8; fore and mid legs with coxae dark brown above and mostly yellow below; trochanter dull yellow; trochantelli brownish; femora dull yellow with brownish staining that is best developed dorso-posteriorly; tibiae dull yellow with some brownish staining; and tarsi dull brownish yellow with last segment mostly blackish; hind leg with coxa dark brown above and yellow with much pale brown staining below; trochanter and trochantellus brown with some yellowish below and apicad; femur dark brown with dull yellow on most of anterior face and postero-ventrally on about apical 1/4; tibia dull brownish yellow with some dusky staining dorsad; and tarsus dull brownish yellow with last segment mostly black; wings hyaline with a brownish yellow tint that is best developed on basal 3/4 of fore wing and with darker brown staining along basal vein and nervulus as well as less conspicuously along second recurrent and in base of second cubital cell.

Length of fore wing: 6.8 mm. *Flagellum:* basal half with short, appressed hairs; tip abruptly elbowed, the enlarged last segment bent almost at right angles with respect to those preceding, three large modified setae just before the bend. *Head:* a short, blunt ridge between antennal sockets; lower half of temple with numerous punctures and a weak tendency to oblique striation. *Mesoscutum:* densely punc-

tate with transverse wrinkling on apical third of central lobe and a mesal area of strong longitudinal wrinkling that extends rearward from terminus of notauli; lateral lobes weakly convex. *Scutellum*: apex rounded off and unspecialized. *Metapleuron*: lower part centrally strongly puncto-rugulose but more weakly sculptured both dorsad and ventrad. *Wing venation*: basal vein strongly arched. *Fore tibia*: on anterior face with about 20 moderately stout spine-like bristles; the apex with a comb of rather slender spines. *Hind coxa*: strongly swollen in dorsal view. *Hind trochantellus*: in front view about 2.3 as long as its trochanter. *Propodeum*: completely areolated; second lateral area with a small, weak tooth at apex. *First gastric tergite*: petiole slender and postpetiole strongly expanded apicad, about 1.0 as long as wide at apex; surface largely mat with fine irregular wrinkling but becoming smoother and shinier basad on petiole; with a low, inconspicuous baso-lateral flange; its sternite ends a little beyond spiracle. *Second tergite*: with abundant, short, mostly overlapping setae; uniformly mat with fine reticulate wrinkling; its baso-lateral corner cut off by a strong oblique groove that reaches about 1/3 the length of tergite. *Third tergite*: without baso-lateral swellings. *Ovipositor*: sheathed portion 0.59 as long as fore wing.

Male: unknown.

Discussion: Although *X. (Xorides)* includes 20 North American species it has never before been recorded from south of the U.S. border.

Xanthisma differs from its Nearctic relatives particularly in structure of the tip of the

female flagellum. Northern *Xorides* have the tip of the flagellum weakly curved to strongly bent (Townes, 1960, fig. 328-329) and the bend or curve involves several preapical segments. In *xanthisma* the considerably enlarged last flagellar segment is bent at right angles with respect to those preceding.

Field notes: The holotype was found on a dry, solid dead tree trunk in wet forest near the banks of the Paraná River not far from the "Hostería Monte Carlo" of the Argentine Automobile Club.

Specific name: *Xanthisma*, used here in apposition, is a Greek noun meaning "that which is dyed yellow".

ACKNOWLEDGEMENTS

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